AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended)   A signal monitoring and integrity checking system for use in ~~optical cross-connects~~ a Dense Wavelength Division Multiplexing (DWDM) network, comprising ~~the following elements~~:
    an optical network including ~~at least one interconnect~~ a first asynchronous cross-connect and a second asynchronous cross-connect, ~~to connect~~ each for connecting an incoming link to an interconnecting link;
    a first performance monitor for said first asynchronous cross-connect;
    a second performance monitor for said second asynchronous cross-connect;
    at least one first multi-cast means ~~to multi-cast~~ for multi-casting the input of said ~~at least one interconnect~~ first asynchronous cross-connect to at least one first monitor port on said ~~at least one interconnect~~ first asynchronous cross-connect, said first performance monitor communicating with said first monitor port; ~~and~~
    at least one second multi-cast means for multi-casting the input of said second asynchronous cross-connect to at least one second monitor port on said second asynchronous cross-connect, said second performance monitor communicating with said second monitor port;
    ~~at least one~~ each of said performance monitors~~, one connected to each at least one monitor port, such that said at least one performance monitor means can detect~~ for detecting ~~the line signalling rate,~~ protocol ~~and performance characteristics of any data carried thereon~~ and determining an error rate in accordance with said protocol;
    a subsystem including at least one comparison system for comparing the outputs from said performance monitors to detect where performance impairment is introduced.

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2. (Cancelled)

3. (Currently Amended)   The system of claim [[2]] 1, further comprising a signalling means to signal for signaling results of said at least one comparison means to a maintenance subsystem.

4. (Currently Amended)   The system of claim [[2]] 1, wherein said comparison means system is part of an Operation, Administration, Maintenance and Provisioning sub-system.

5. (Currently Amended)   A method for signal monitoring and integrity checking in an optical cross-connects a Dense Wavelength Division Multiplexing network, comprising the following steps of:

1) multi-casting the data at an input port of [[an]] interconnect a first asynchronous cross-connect to a first connecting path and a first snooping path;

2) multi-casting the data at an input port of at least a second asynchronous cross-connect interconnect to at least a second connecting path and at least a second snooping path;

3) monitoring said first snooping path connected to said multi-cast data with a first [[P]]performance [[M]]monitor, including:

determining the protocol of the data at said first snooping path, and determining an error rate in accordance with said protocol;

4) monitoring said at least a second snooping path connected to said at least a second multi-cast data with a second [[P]]performance [[M]]monitor, including:

determining the protocol of the data at said second snooping path, and

determining an error rate in accordance with said protocol;

5) comparing the output of said first [[P]]performance [[M]]monitor in step 3 with the output of said at least a second [[P]]performance [[M]]monitor in step 4; and

6) signalling said result[[s]] of the comparing step to an Operation, Administration, Maintenance and Provisioning (OAM&P) sub-system; and

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<u>7) at the OAM&P, in response to the result of the comparing step, detecting where performance impairment is introduced</u>.

6.(Amended) The method of Claim 5, wherein the monitoring steps each comprises the following step[[s]]:

1) detecting the line code of a connection[[; and]] <u>to determine said protocol</u>

~~2) detecting the protocol of said connection~~.

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